

Remarks

This Amendment is in response to the Office Action dated **November 10, 2009**. In the Office Action, claims 2, 3, 5-12 and 16-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jensen et al (US 6,305,936) in view of Futami et al (US 4,778,832), Hare (US 5,661,222), Kamohara et al (US 6,291,546), Zech et al (US 6,677,393), Amstutz et al (US 4,559,013) and Kostner et al (US 4,204,324). Claims 2, 3, 5-12 and 16-18 are presented for reconsideration and allowance.

No amendments have been made to these claims. Pursuant to an interview conducted with the Examiner on January 12, 2010, the arguments discussed during that teleconference are presented herein. The Examiner requested that these arguments be presented in written form and indicated that this would place the application in condition for allowance.

Claim Rejections - § 103(a)

Claims 2, 3, 5-12 and 16-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jensen in view of Futami, Hare, Kamohara, Zech, Amstutz, and Kostner.
Claims 2, 3, 5-12, and 16

Claims 2, 3, 5-9, 11-12 and 16 depend from independent claim 10. Claim 10 includes the step of: “providing a covering composition which cross-links in a self-curing manner at an ambient temperature in the mouth interior on the gingiva and produces an elastomeric material which adheres to the gingival.” The covering composition comprises an A-silicone, C-silicone or polyether. None of the cited references teach or suggest a covering composition (comprising an A-silicone, C-silicone, or polyether) that self-cures at an ambient temperature on the gingiva to produce a material that adheres to the gingival.

In Jensen, a barrier composition that provides a sealing isolation barrier on the gingiva comprises a polymerisable monomer, a curing agent, and an additional compound. Jensen, col. 3, l. 62-67; col. 4, l. 1-17. The barrier composition of Jensen is applied to the gingiva and polymerized with a dental curing light. Jensen, col. 4, l. 52-56. Jensen teaches that the monomer is a methacrylate (col. 6, l. 60-67; col. 7, l. 1-8) but “other monomers are within the contemplation of the present invention and can be found by routine experimentation by reading the disclosure and practicing the invention.” Jensen, col. 7, l. 9-12. The Office Action cites this

portion of Jensen and suggests that “[w]hile Jensen et al disclose methacrylates, rather than the claimed addition and condensation silicones, Jensen et al do make it clear that other materials having similar properties may be used to accomplish the method.” Office Action, p. 3.

However, in order to practice the method of the invention, the composition is cured using light radiant energy from a dental curing light. The monomer has to be combined with a curing agent in order “to induce the monomer to cross link upon exposure to adequate light radiant energy” from a dental curing light. Jensen, col. 7, l. 19-20. In the present invention, however, the silicone or polyether used in the covering composition self-cures at an ambient temperature on the gingiva and adheres to the gingival. Jensen does not teach or disclose a composition that self-cures at an ambient temperature on the gingival and adheres thereto.

Furthermore, as discussed in the present application, the process used in Jensen is a time-consuming use of irradiation that releases a large amount of heat during cross-linking. *See* Specification, p. 2, l. 14-29; p. 3, l. 1-19 (discussing the Jensen patent). Unlike the prior art, the present invention is not exothermic during the curing process, and therefore does not require the addition of non-reactive additives, plasticisers, or reflective material to reduce the resulting heat energy or the cross-link density of the acrylate. *See* Specification, p. 2, l. 14-29; p. 4, l. 21-26.

Therefore, it would not have been obvious to simply replace the methacrylates disclosed in Jensen with the composition of the present invention in order to use the method of the Jensen patent.

None of the other references correct the deficiencies of Jensen. Futami, Hare, Zech and Kamohara disclose materials used in dental impressions comprising silicones, but does not disclose that it is applied to gingival or able to adhere to the gingiva. Further, the curing time (at least several minutes) is considerably longer than the curing time of the present invention (e.g., less than a minute). Amstutz discloses a shield applied to the teeth and used to protect a person’s mouth from abrasions on the mouth or tongue caused by braces or other orthodontic appliances. It does not disclose a silicone material applied to gingival and able to adhere to the gingival. It also has a curing time of several minutes. Kostner discloses using silicone as a gum mask; however, it uses heat-curable silicone requiring temperatures between 100 °C and 180 °C. Kostner, col. 2, l. 62-68. None of these references teach or suggest a silicone composition that, at ambient temperature, self-cures and adheres to the gingival.

The Office Action suggests that “[t]o have merely substituted common dental A-silicones and C-silicones [...] as taught by Amstutz et al and Kostner et al for the methacrylate compositions disclosed by Jensen would have been obvious to one of ordinary skill in the art.” However, “[a] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007). Rather, “[i]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* at 418. Here, the references do not teach a reason to combine the references in such a way as to make the claimed invention. Further, it is unclear from the references that a person of ordinary skill in the art could simply substitute one known element (methacrylates of Jensen) for another (a-silicones and c-silicones of the other references) with predictable results to make the claimed invention.

Therefore, the rejection of independent claim 10 should be withdrawn and the claim allowed. Claims 2, 3, 5-9, 11-12 and 16 depend from allowable independent claim 10, and thus should be allowed. Furthermore, claims 6-8 include limitations regarding the shortened curing time using the covering composition of the claimed invention and a self-curing at ambient temperatures, which is not found in the prior art.

Claim 17

Claim 17 also includes the step of “applying a covering composition to gingiva, the covering composition cross-linking in a self-curing manner at an ambient temperature in the mouth to produce an elastomeric material that adheres to the gingival,” where the composition is selected from the group consisting of A-silicones, C-silicones, or polyethers. For the reasons presented above with respect to claim 10, the rejection of claim 17 should be withdrawn and the claim should be allowed.

Conclusion

Applicant believes that claims 2, 3, 5-12 and 16-17 are in condition for allowance.
Notice to that effect is respectfully requested.

Respectfully submitted,

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